OCTOBER, 14, 1950 PAGES 473 TO 480

THE LANCET

Offices: 7, ADAM STREET, ADELPHI, W.C.2

Telegrams: LANCET, RAND, LONDON Telephone: TEMPLE BAR 7228 and 7229

No. XVI OF VOL. II, 1950
No. 6633 VOL. CCLIX

LONDON, SATURDAY, OCTOBER 14, 1950
Founded 1823 PUBLISHED WEEKLY Registered as a Newspaper

Pp. 8—Price 1s.
Annual Subscription: £1 2s.

THE LIBRARY OF CONGRESS SERIAL RECORD NOV 3 1950

WE must again express our regret at being unable to present various articles that need early publication. Not least in medical science, the blockage of normal channels of information can soon do real damage. Hence we welcome the greater sense of urgency lately shown by those charged with finding a solution of the present printing dispute.

Electrophrenic Respiration

A VAST public is still fascinated by the ingenious "iron lung" devised in 1929 by DRINKER and SHAW[1] for "prolonged administration of artificial respiration." This apparatus is alternately the hope and the despair of the clinician called on to treat bulbar or bulbospinal poliomyelitis with respiratory failure. He can rarely prophesy whether the treatment will be: (1) a brilliant success, tiding the patient over a difficult period until use of the respiratory muscles is restored to him; (2) a comparative failure with a hopelessly paralysed patient depending on the respirator for continued existence; or (3) a complete failure, giving little or no relief because of an obstructed airway or concomitant paralysis of the respiratory centre. Many of these cases are complicated by pharyngeal or laryngeal paralysis, and the consequent pooling of mucus leads to obstruction of the respiratory passages. Under these conditions the violent inspirations induced by the respirator give rise to a negative pressure in the bronchioles and alveoli, into which plasma and red cells are sucked, producing hæmorrhagic pulmonary œdema. To ward off this danger respirator treatment may be combined with postural drainage and suction; but this is not always effective, and of late years tracheotomy has often been employed as an additional measure, especially in the U.S.A., where experience of this type of poliomyelitis is vastly greater than elsewhere.

None of these methods suffices, however, when the patient begins to exhibit the grossly irregular "respiratory fibrillation" characteristic of severe damage to the respiratory centre. Here the spontaneous rhythm does not often conform with that of the respirator; and death usually follows fairly rapidly. Sometimes, it is true, if the negative pressure of the respirator is increased to 30 cm. water the patient may be induced to cease all respiratory effort; but this step is taken at the risk of inducing alkalosis. A new and apparently effective method of meeting this difficulty is now described by a Boston team under the leadership of SARNOFF.[2] It has been shown in animals and man that electrical stimulation of one or both phrenic nerves will suppress spontaneous respiration and induce artificial respiration; and such stimulation, applied externally through an electrode over the motor point of the phrenic nerve, can be used to induce smooth, regular, rhythmic respiration, provided that at least one lobe of the diaphragm is working. Patients with irregular, shallow, spontaneous respiration who failed to adapt their breathing to the respirator's rhythm have been submitted to this stimulation for periods varying from eight hours to several days. It seems that, even after a few hours, spontaneous respiration may be greatly improved, but in the worst cases stimulation may have to be continued for some time before the respiratory centre has sufficiently recovered. In one case the immediate effect was a change from ineffective, shallow, irregular respiration to Cheyne-Stokes respiration, which proved to be an intermediate stage on the way to full recovery of the respiratory centre. SARNOFF and his colleagues describe 9 cases in which this method was applied apparently with conspicuous success. Most of them were grossly dyspnœic, and the patients might otherwise have been expected to die. More experience will be needed before the value of this device can be established. The apparatus should not be used unless the operator has made himself proficient with it, and to become proficient he must practise on normal volunteers.

It is becoming evident that the somewhat haphazard methods by which we have tried to deal with these desperate cases are becoming obsolete. If poliomyelitis persists in this country on a serious scale, we shall have to build up specialised and well-equipped teams of doctors and nurses to deal with threatened or actual respiratory failure.

1. Drinker, P., Shaw, L. A. *J. clin. Invest.* 1929, **7**, 229.
2. Sarnoff, S. J., Maloney, J. V. jun., Sarnoff, L. C., Ferris, B. G., Whittenberger, J. L. *J. Amer. med. Ass.* 1950, **143**, 1383.

Annotations

SAFEGUARDING THE DOCTOR

THE latest report from the Medical Protection Society[1] describes many interesting cases; but, as Sir Ernest Rock Carling said in his presidential address at the annual meeting last week, the society's most important work lies in dealing daily with requests for advice: it offers a preventive as well as a curative service. Under the N.H.S. doctors are more than ever in need of such protection; for the Ministry of Health, as might be expected, assumes no responsibilities that can legally be placed on the clinician. Among other points, Sir Ernest made the following. (1) To make sure that swabs are not left in the body, every operating-theatre *must* have a discipline: what the particular practice is does not matter so much as its regular observance. (2) Dental packs to prevent the swallowing of teeth should be large, and preferably should have a tape attached. (3) When part of a needle remains in the tissues, the doctor should not admit liability, but should send the fragments (both if possible) to the society for metallurgical examination later if necessary. (4) Every hospital should have written rules making it clear on whom responsibility rests for giving antitetanus serum; and newcomers to the hospital should ask what the rules are. (5) All doctors should take out a policy with an insurance company covering mishaps (such as falls) on their premises. Sir Ernest also referred to the vexed question of responsibility for work done by a registrar or other junior doctor at the request of a senior: when something goes amiss, it is, he feels, a little hard that the onus should lie entirely on the man working under instruction.

Mr. W. M. Mollison, the treasurer, reported that the amount spent per member last year was £1 4*s.* 7*d.*, of which 14*s.* 2*d.* went in legal expenses and indemnities. The deficit of £2195 was covered, however, by an increase in the value of capital funds from about £112,000 to nearly £119,000, and the subscription to the society remains at £1.

CANCER OF THE MOUTH

DESPITE new methods of treatment the prospects of the patient with cancer of the mouth are not impressively better than they were half a century ago. Two of the reasons are made clear in an account of 800 cases observed by Ledlie and Harmer[2] at the Royal Cancer Hospital, London. In the first place, the patients were mostly well up in years, so that the natural expectation of life was short. Of the whole series,

1. From the offices of the Society, Victory House, Leicester Square, London, W.C.2.
2. Ledlie, E. M., Harmer, M. H. *Brit. J. Cancer*, 1950, **4**, 6.

545 were over the age of sixty, and not one was under thirty-five. Secondly, when the patients first reported, metastases were already evident in 59%, excluding those where the primary growth involved the lip. Here metastases were found in only 25%; and, since these patients reported no earlier than others, metastasisation from this site is apparently slower. Among the whole 800 there were 30 (3·75%) in which a second primary developed; usually this was in the digestive tract, and most commonly between the lip and the cardiac sphincter of the stomach. The Wassermann reaction was investigated in rather over half the cases, and it proved positive in 16% of these. It was most commonly positive with cancer of the tongue (28%), less often with cancer of the buccal mucosa (20%), and rarely with cancer of the palate (3%) and alveoli (0·5%).

As to treatment, widely different methods had very similar results. When cases were grouped according to the site of the primary growth the average net survival-rate was found to be surprisingly uniform at about 30% at three years, 20% at five years, and 10% at ten years. (Here "net" implies the inclusion of all cases treated except those untraced and those dead of intercurrent disease.) In most buccal and oropharyngeal sites teleradium proved more effective than X-ray therapy. It seems, however, that early cases of cancer of the lip respond best to X-ray therapy; where metastases had not already developed this provided a three-year net survival-rate of 91%. With early cases of cancer of the anterior two-thirds of the tongue surgical treatment gave the best results (6 out of 7 surviving for three years); with cases in all stages treated surgically, by radium or X rays, or by combined methods the net survival-rate was 30% at three years, 20% at five years, and 14% at ten years. With primary lesions elsewhere in the mouth radium gave significantly better results than X rays; but with lesions in the oropharynx X-ray therapy proved no less effective than radium.

MEDICAL MYCOLOGY

AT the turn of the century, the classical and dominating work of Sabouraud on the dermatophytes fostered the impression that medical mycology was concerned solely with the ringworm fungi and obscured the remarkable developments in the study of systemic mycoses which were taking place in South America. Coccidioidomycosis, rhinosporidiosis, and chromoblastomycosis, which have all proved to be important and widespread diseases, were first described in Latin America; and a strong tradition of investigation in medical mycology has been maintained there. It was therefore appropriate that the first International Congress for Microbiology to devote a separate section to medical and veterinary mycology should have been the one held last August in Rio de Janeiro on the fiftieth anniversary of the foundation of the Instituto Oswaldo Cruz—a laboratory which has made big contributions to medical mycology.

At the four well-attended sessions of the new section more than forty papers were given by speakers of ten different nationalities; and despite linguistic difficulties the discussion was lively and well-informed. Naturally, South American speakers predominated and the emphasis was on diseases of local importance, such as South American blastomycosis. Many of the visitors had more to learn than to give and they were inclined to wonder whether thorough study might not show that mycotic diseases are no less prevalent elsewhere.

Though part of the present confusion in the nomenclature of fungi of medical importance is due to taxonomic uncertainties, much of it could be eliminated by international discussion and agreement. The 4th congress, held in Copenhagen in 1947, appointed a special committee on medical and veterinary mycopathology, and the latest congress confirmed this committee in office. At Rio the committee met and agreed to prepare a list of recommended names of fungus pathogens, similar to the British list [1] but on a wider basis; to standardise the common names of mycotic diseases; to consider the standardisation of culture media; and to compile a list of the addresses of medical mycologists. The secretary of the international committee is Dr. A. Cury, Instituto Oswaldo Cruz, Rio de Janeiro, Brazil; but anyone in Britain can obtain information about its activities from the secretary of the Medical Research Council's committee on medical mycology, 38, Old Queen Street, London, S.W.1.

1. Medical Research Council memorandum no. 23: Nomenclature of Fungi Pathogenic to Man and Animals. H.M. Stationery Office, 1949. Pp. 16. 6d.

STERILISING THE GUT

DURING the last decade the mortality from operations on the lower bowel has fallen steeply. At the Presbyterian Hospital, New York, it is now only 3%, compared with 15% ten years ago. This fall cannot be ascribed to any one new technique, but the administration of sulphonamides and antibiotics has played some part. Sulphaguanidine [1] and later succinylsulphathiazole [2] and phthalylsulphathiazole [3] have been used in attempts to sterilise the gut before gastro-intestinal surgery. These comparatively insoluble sulphonamides reduce the bulk of the stool and bring down the content of coliform organisms to less than 1000 per gramme. The sulphonamides, however, have certain disadvantages, including slow action, a narrow antibacterial range, and toxic side-effects. The usefulness of penicillin, which is non-toxic, is limited by its extremely rapid absorption and by its destruction by penicillinase in the lumen of the gut. Moreover, coliform bacteria are relatively refractory to it. As an intestinal antiseptic, streptomycin has some advantages over both penicillin and the sulphonamides, since it remains in the lumen of the bowel in high concentration and is more active against coliform organisms; on the other hand, resistance may appear within a few days.

Pulaski and his colleagues [4] have now shown that the activity of streptomycin may be enhanced, and resistance deferred, by the simultaneous administration of glycuronolactone—the inner anhydride of glycuronic acid which detoxifies a number of drugs in the body. (Aluminium pectinate had a similar but less pronounced effect.) 'Polymyxin B,' an antibiotic derived from *Bacillus polymyxa*, proved as effective as streptomycin in suppressing coliform organisms, but proteus strains were resistant to it. Pulaski and his associates say that 'Aureomycin' and chloramphenicol were not effective; but the dosage they employed may have been too low. Dearing and Heilman, [5] who used slightly larger doses, report that aureomycin is the most effective of the substances they have tested.

The evidence that preoperative chemotherapy significantly reduces complications and morbidity is not yet, however, statistically satisfying. Most of the experimental work has been on animals; and some experienced surgeons claim that prophylactic chemotherapy is unjustified because of the fresh problems it creates.

PROGNOSIS OF SUBARACHNOID HÆMORRHAGE

THE increasing ingenuity of neurosurgeons in the treatment of intracranial aneurysms has focused attention on the prognosis for patients with subarachnoid hæmorrhage. At the Toronto General Hospital, Hyland [6] has studied 191 cases admitted between 1928 and 1942. Altogether 100 (53%) died as a result of the attack that brought them to hospital. This is in line with earlier accounts. Thus Magee, [7] in an analysis of Ministry of Pensions cases, recorded 52 deaths among 150 patients in initial attacks, and Hamby [8] 44 deaths among 130. In the Canadian series, of the 100 who died, 26 had recurrent hæmorrhage while in hospital, usually within two weeks of the initial attack. Factors pointing to a poor prognosis were unconsciousness at the onset, pre-existing hypertension, signs suggesting intracerebral bleeding, and advanced age; of the 48 patients between the ages of sixty and eighty, 33 (69%) had fatal hæmorrhages. Necropsies on 55 of the cases brought to light ruptured aneurysm in 44, subtentorial angioma (which had been diagnosed during life) in 1, and cerebellar hæmangioma in 1; in 9 no bleeding-point was discovered, but it was thought that the source of the hæmorrhage was a leaking aneurysm.

In Sweden, Ask-Upmark and Ingvar [9] have followed up 138 patients admitted to the university clinics at Lund and Uppsala. Of these, 38 (28·3%) died during the first attack, the average time of death being the ninth day after the hæmorrhage. The post-mortem findings are of interest in connection with the probable congenital basis of intracranial aneurysms. In 47 necropsies, presumably including some on patients who

1. Marshall, E. K., Bratton, A. C., White, H. J., Litchfield, J. T. *Bull. Johns Hopk. Hosp.* 1940, **67**, 163.
2. Poth, E. J. *J. Amer. med. Ass.* 1942, **120**, 265.
3. Poth, E. J. *Surgery*, 1945, **17**, 773.
4. Pulaski, E. J., Connell, J. F., Seeley, S. F. *Ann. Surg.* 1950, **132**, 225.
5. Dearing, W. H., Heilman, F. R. *Proc. Mayo Clin.* 1950, **25**, 87.
6. Hyland, H. H. *Arch. Neurol. Psychiat.* 1950, **63**, 61. See also Richardson, J. C., Hyland, H. H. *Medicine*, 1941, **20**, 1.
7. Magee, C. G. *Lancet*, 1943, ii, 497.
8. Hamby, W. B. *J. Amer. med. Ass.* 1948, **136**, 522.
9. Ask-Upmark, E., Ingvar, D. *Acta med. scand.* 1950, **138**, 15

died of recurrent hæmorrhage, malformations of the kidney were found in 9 cases, including 5 of polycystic kidney, 1 of horseshoe kidney, 1 of double ureters, 1 of hydronephrosis associated with an accessory kidney, and 1 of well-marked fœtal lobulation. Magee, in 58 necropsies, found cystic kidney in 1 and horseshoe kidney in another.

The incidence of recurrent hæmorrhages and the prospects of return to normal health have also been studied. Hyland was able to trace 67 of the 91 survivors. Of these 67, 14 had died of recurrent hæmorrhage and 7 of intercurrent disease. For the remaining 46 the average time of follow-up was ten years. Of this group, 26 were free of disability and able to live normal lives; some had had headaches and general fatigue for a year or two after leaving hospital but had gradually improved. A further 10 had mild disabilities, such as headache, mental dulling, or residual cranial-nerve palsies, but were able to work. 4 had more severe defects—in 3, a hemiparesis—but were doing light work. Finally, 3 were unable to work, because of severe disabilities such as aphasia and hemianopia combined. Ask-Upmark and Ingvar recorded recurrent hæmorrhages in 10 men with 4 deaths and in 29 women with 19 deaths, and state that the mortality in recurrent attacks was about twice as great as in initial attacks. Thus with 38 deaths from the original attack, 23 from a recurrent attack, and 13 from other causes, there were 64 survivors. Of these, half were able to carry on their normal occupations while the other half were more or less severely crippled. The follow-up period varied, being over ten years in 32 cases and five years or less in 41 cases.

These figures emphasise the serious outlook for patients who have had a subarachnoid hæmorrhage, but they also show that there is a definite group who survive an initial attack and make a good recovery without further hæmorrhage. Such results as these will be of a particular value when comparable figures are obtained for patients treated surgically, either during the initial hæmorrhage or, in an effort to prevent further disability, after the bleeding has stopped. Meanwhile, however, these accounts are a salutary corrective to the view that "the over-all mortality among patients with spontaneous hæmorrhage due to rupture of an aneurysm approached 100% with therapy available prior to the advent of surgical intervention."[10]

Sir ERNEST GRAHAM-LITTLE, consulting physician to St. Mary's Hospital, died on Oct. 6. He sat as member of Parliament for London University from 1924 to 1950, and he was a member of the senate of the university for 44 years.

Air Vice-Marshal Sir JOHN MCINTYRE, director of the R.A.F. medical service from 1930 to 1935, died on Oct. 7 at the age of 70.

Lord HADEN-GUEST has been elected president of the Association of Scientific Workers in succession to Lord Boyd-Orr.

THE eight nations and territories in the W.H.O. region for South East Asia have increased their contributions to the organisation by 20% in an effort to avoid reductions in the health programme in the area owing to the budget cuts made at the last World Health Assembly in Geneva.

10. Hurteau, E. F. *J. Amer. med. Ass.* 1950, **142**, 988.

Special Articles

INTERNATIONAL CONGRESS OF PSYCHIATRY

THE 1st International Congress of Psychiatry, held in Paris from Sept. 18 to 27 under the presidency of Prof. JEAN LHERMITTE and Prof. JEAN DELAY, was well attended by representatives from England, Western Europe, and Latin America, but numbers from the United States fell below expectation. No Russian delegates were present.

SHOCK THERAPIES

Dr. U. CERLETTI (Rome) pointed out that the reactions evoked by electric shock vary widely as between different species but are relatively constant in the same species. Often they may be taken to represent primitive escape or defence reactions. He laid stress on the widespread somatic changes evoked by E.C.T., in particular those governed by the diencephalic vegetative centres, and he sketched a working hypothesis to account for the beneficial effects of convulsion therapy in man.

Dr. A. M. FIAMBERTI (Varese) described his method of intravenous injection of acetylcholine and produced some evidence of its superiority to E.C.T. in the treatment of schizophrenia.

Dr. J. J. LÓPEZ IBOR (Madrid) held that E.C.T. is not indicated in every case of endogenous depression and that it may have value in the treatment of catatonic and certain forms of paranoid schizophrenia. Prof. L. J. MEDUNA (Chicago) retracted his earlier opinion that E.C.T. is of value in genuine schizophrenia but believes that certain symptomatic schizophreniform syndromes ("oneirophrenias") respond favourably to this treatment. These syndromes, Prof. Meduna thinks, are associated with a wide variety of ætiological conditions but are characterised by a specific disturbance of carbohydrate metabolism. This he attributes to a partial inactivation of hexokinase due to overaction of the anterior pituitary hormone.

Hypoglycæmic shock treatment was discussed by its originator, Dr. MANFRED SAKEL (New York), who emphasised the therapeutic importance of coma as opposed to convulsion in the insulin treatment of schizophrenia. The treatment, he said, is still only a tool, whose effect "does not depend so much on the tool as upon the man who uses it."

LEUCOTOMY AND TOPECTOMY

The rationale of prefrontal leucotomy was explored by Dr. BARAHONA FERNANDES (Lisbon). Leucotomy, he said, is apt to provoke an increase in general responsiveness associated with a certain blunting of social judgment. Intellectual changes are variable but seldom profound.

Prof. WALTER FREEMAN (Washington) laid great emphasis on the plane of section in relation to the ultimate outcome of operation. In his experience, defects of social judgment are rare after the more anterior cuts, but this operation may fail in its purpose of symptomatic relief. With more posterior cuts, on the other hand, postoperative social defects may outweigh improvement of emotional symptoms. "The important thing is to place the incision just far enough back in order to relieve the emotional disturbance without, at the same time, trespassing on those parts of the brain that are requisite for adequate social adjustment." In assessment, Prof. Freeman considers it more important to study what patients actually do with their intelligence than to measure what they *can* do on formal tests.

None the less, the effect of leucotomy on intellectual test performance was discussed by a number of contributors. Dr. G. RYLANDER (Stockholm) reported a significant lowering in I.Q. on a number of tests following the standard operation but observed that the loss was considerably less after inferior cuts. He had been unable to demonstrate any intellectual changes on tests in 21 cases after undercutting.

A further instalment of "anatomical lessons from prefrontal leucotomy" was communicated by Prof. ALFRED MEYER, who summarised his findings from 122 leucotomised brains, of which 61 were from patients who survived more than five months after operation. His principal conclusion was that the quantitative correlation between degree of personality change and extent of prefrontal damage completely overshadows whatever tendency there may be to specific localisation within the prefrontal areas. He was unable to report any decisive information from anatomical studies bearing on the pathology of functional psychosis, and he issued a stern warning against premature attempts to correlate clinical with neurophysiological data. "Speculation is never more dangerous than when in the guise of the exact sciences."

GENETICS IN PSYCHIATRY

Dr. F. J. KALLMANN (New York), in a circulated report, adduced evidence—mainly from studies of twins—supporting the hypothesis of basically single-factor types of inheritance with respect to schizophrenia and manic-depressive psychosis. Dr. ELIOT SLATER broadly agreed as regards schizophrenia but argued that multifactorial inheritance is the more probable in manic-depressive syndromes. On the other hand, Prof. L. S. PENROSE, arguing by analogy with the genetics of intelligence, thought it most improbable that any major psychosis could be attributed to single-factor inheritance. He also warned students of human genetics against forcing their material into simple and preconceived mendelian schemes.

In a review of the genetics of oligophrenia, Dr. J. A. FRASER ROBERTS argued that the polygenic determination of the

innate component of high-grade defect is demonstrated both by the close fit of the Gaussian curve to the level indicated and by the degrees of resemblance between high-grade defectives and their relatives. But he agreed with Prof. Penrose in ascribing inborn low-grade defect to single major genes or chromosome abnormalities. He held that, for distinguishing between these two broad classes of endogenous mental defect, the psychometric method is at present the most useful tool.

Dr. ELIOT SLATER reviewed in various communications important evidence bearing on constitutional predisposition to psychoneurotic illness and its relation to environmental stress.

TRENDS IN PSYCHO-ANALYSIS

Dr. F. ALEXANDER (Chicago) advocated a method of analytical procedure somewhat more active than the classical Freudian method. He stressed the dangers of overdependence on the physician which are liable to result from rigid adherence to the orthodox method and the need for assisting the patient actively to adjust to his current milieu. Recent theoretical developments in psycho-analysis were reviewed by Miss ANNA FREUD, with special reference to the problem of aggression. She also advocated well-designed sociological studies—e.g., of displaced children—to provide experimental checks on psycho-analytic theory. Dr. M. LEVINE (Cincinnati) commented on the progressive integration of psycho-analysis with psychiatry and general medicine which he believes to be taking place in the United States.

A general impression left by this symposium was that psycho-analysis is now passing into a conservative phase with little prospect of fresh theoretical advance.

MENTAL TESTS

The place of mental tests in clinical psychiatry was forcibly discussed and tended to evoke extreme attitudes. In an admirably balanced communication, Dr. MANFRED BLEULER (Zurich) urged that "projection methods" (e.g., the Rorschach test) have great value in displaying clinical syndromes already known but can contribute nothing new to psychopathology. Dr. D. RAPOPORT (Stockbridge, U.S.A.), on the other hand, argued in a circulated abstract that diagnostic testing procedures should be more closely integrated with psychiatric theory. Dr. P. PICHOT (Paris) showed himself more closely in sympathy with the psychometric approach than is usual among clinicians and was much opposed to the empirical methods of test-validation in current use. He favoured a somewhat stricter rationale of test construction based on the methods of factorial analysis.

SOME OTHER TOPICS

Psychopathology of Delusions.—This symposium provided evidence of a rapprochement between the organic and functional approaches to psychotic thought disorders. Dr. G. E. MORSELLI (Novara) drew parallels between delusions in primary psychoses and kindred phenomena observed in anosognosia, depersonalisation, and mescaline intoxication. Dr. P. GUIRAUD (Paris) attempted to relate delusional thinking to derangements at the diencephalic level depending either on structural lesion or emotional disturbance. Dr. W. MAYER-GROSS, in a general discussion of paranoid states, strongly advocated their inclusion in the category of schizophrenias. "Paranoia," he maintained, "remains an idealised picture . . . never reached in clinical reality."

Experimental Neuroses.—Prof. R. W. RUSSELL outlined the main methods of inducing experimental neurosis in animals and advocated the comparative approach to many problems in human psychopathology. A Pavlovian interpretation of traumatic neurosis was offered by Dr. H. J. SHORVON.

Electro-encephalography.—Dr. DENIS HILL suggested that E.E.G. research is of theoretical rather than practical importance in present-day psychiatry. He discussed disturbances in thalamocortical relations as reflected in the E.E.G. and examined their relevance to behaviour. He considered also some problems arising from the special nature of the E.E.G. in catatonic schizophrenia.

Experimental Catatonia.—Dr. H. DE JONG (Los Angeles), reviewing a long series of bulbocapnine experiments, concluded that experimental catatonia is a general form of reaction of the C.N.S. Though it has no specific ætiology, its threshold seems to be lowered in certain conditions in which there is a disturbance of liver function.

Six volumes of proceedings of the plenary sessions (published by Hermann & Cie., Paris) are available. It is hoped that abstracts of discussions and symposia will be printed later.

SENIOR HOSPITAL MEDICAL OFFICERS

AFTER discussion with professional bodies the Ministry of Health announce (R.H.B. [50]96) agreement that the following posts may suitably be filled by S.H.M.O.S:

Blood-transfusion
Posts below that of director of regional blood-transfusion service.

Diseases of the Chest
Posts in a restricted part of this field (e.g., limited to routine tuberculosis dispensary work); medical officers of sanatoria either in charge of small units or below the rank of superintendent in charge; assistants to a consultant in charge.

Geriatrics
Posts below the rank of head of a large department; and other posts where the scope for investigation and active treatment or the clinical responsibility is insufficient to justify consultant status.

Infectious diseases
Medical superintendents of small hospitals; at other hospitals posts below that rank.

Obstetrics (practised alone)
Posts at antenatal and postnatal clinics; posts in maternity departments which are under the general supervision of a consultant.

Ophthalmology
Posts primarily concerned with non-operative work—e.g., refraction.

Orthopædics
Posts primarily concerned with non-operative work.

Pædiatrics
Posts at welfare centres and other posts primarily concerned with child welfare.

Physical medicine: Venereal diseases
Post of officer in charge of a small clinic; in large departments posts other than head of the department.

Psychiatry and mental deficiency
Posts of medical superintendent of small institutions (at larger mental institutions some posts below that rank); posts primarily concerned with limited fields of psychiatry.

Hospital establishments should include an adequate complement of widely experienced *anæsthetists* of consultant status. Some hospitals will also often need assistant anæsthetists of S.H.M.O. grade. The staff of a *pathological department* should consist of consultants and trainees, with a limited field for the appointment of assistant pathologists paid on the S.H.M.O. scale. The complement of consultants must depend on the size of the department, but where there are separate sections each in the charge of a pathologist under the general control of the head of the department—e.g., morbid anatomy, biochemistry, hæmatology, bacteriology, blood-transfusion—each should be of consultant status. The establishment of *radiodiagnostic* or *radiotherapeutic departments* should include at least one practitioner of consultant status with trainees. Where this complement is not sufficient to deal with the work, it may be necessary to appoint assistant radiologists of narrower training and with more limited responsibility than the consultant, paid on the S.H.M.O. scale.

The establishments of departments of *general medicine, general surgery*—including urology and proctology—*obstetrics and gynæcology* (practised together), *cardiology, dermatology, otolaryngology, neurology, neurosurgery,* and *plastic and thoracic surgery* should not include S.H.M.O. posts.

The Ministry has asked regional hospital boards to revise their establishments in accordance with the above principles. This revision, however, will not affect the personal status of a doctor whose post may be regraded. Thus the S.H.M.O. whose post is regraded as consultant, and the consultant whose post is regraded as suitable for an S.H.M.O., will both retain their present personal status. When a post which has been regraded becomes vacant it will be advertised according to its new status. When there is no suitable applicant of consultant status a consultant post may no longer be offered to one of the applicants as an S.H.M.O. post.[1] If the field of consultant applicants cannot be widened by a rearrangement of the duties of the appointment, it will be readvertised as an S.H.M.O. post.

The Ministry also asks boards not to overlook the possibility that some part-time S.H.M.O. appointments—i.e., assistant anæsthetists, assistant geriatricians, assistant pædiatricians, or M.O.S in charge of small infectious disease hospitals—may appropriately be filled by general practitioners.

1. See *Lancet*, Aug. 19, 1950, p. 296.

From Letters to the Editor

Methonium Compounds in Hypertension.—In reference to the articles by Dr. Turner and Dr. Saville (Sept. 2), I should like to refer briefly to our experience here.

Dr. Restall and I have lately reported (*N.Z. med. J.* 1950, **49**, 206) some results which we regarded as hopeful; and further work has been undertaken with Dr. K. S. Alstad. The effect of methonium halides has now been studied in 80 patients with substantial hypertension; and 26 patients with hypertension of the more severe types, including 9 with malignant hypertension, have been treated for one to nine months. Our general impression is that the methonium salts provide the most generally applicable method of controlling the blood-pressure (B.P.) level (where this is desirable) in various forms of arterial hypertension. The cases studied include some of labile and fixed types of essential hypertension, essential hypertension with persisting or recurring high B.P. after sympathectomy, malignant hypertension, hypertension from chronic nephritis, renal insufficiency in hydronephrosis, renal tuberculosis, the acute phase of pregnancy toxæmia, and hypertension following pregnancy toxæmia. In all cases the B.P. could be reduced—in all but 2 substantially. In many instances falls of 60–120 mm. Hg in the systolic pressure and of 15–50 mm. Hg in the diastolic pressure were observed.

In conformity with suggestions as to the pathogenesis of essential hypertension (*Brit. med. J.* 1949, i, 791), we have worked on the principle that effective control over the B.P. level is essential in treatment; high B.P. is not to be regarded as merely symptomatic but as the means whereby multiple underlying pathological factors lead to the disabilities characteristic of the disorder. Our objective, therefore, has been to reduce B.P. as much as seemed safe and practicable. In order to do this we took advantage of the postural fall of B.P.; patients slept in cardiac beds with the body inclined at 45° and the legs slightly lowered. Thus we needed comparatively small doses and have had few side-actions. As far as possible we aimed at having the average systolic level below 160 mm. Hg. As soon as patients were ambulant they were encouraged to sit upright and to stand.

Another advantage of having the patient propped up during the action of the drug is that, if the B.P. falls excessively, symptoms can be relieved within a few minutes by the patient lying flat. If much larger initial doses (e.g., 100 mg.) are employed so as to reduce the B.P. when the patient is horizontal, there is a smaller margin of safety and parasympathetic effects are prominent. In the interest of safety I think that in hypertensives the initial dose of the halide, given subcutaneously or intramuscularly with the patient in the sitting posture, should not exceed 15 mg. Even with this small dose the systolic B.P. may fall to 90 mm. Hg, but when the patient lies down the pressure rises promptly to, say, 150 mm. At first, subcutaneous injections of 15–25 mg. may be given twice or thrice daily. Patients almost invariably acquire tolerance to the drug, and the dose has to be increased considerably in order to maintain B.P. reduction. Eventually the subcutaneous dose may be stabilised at 50–250 mg. twice or thrice daily.

These drugs can be used with no more danger than other powerful agents, provided their effect is carefully observed, particularly in the early stages of treatment. Standard dosage is unsatisfactory, for an amount which would be ineffective in one patient would be dangerous in another. Effective doses should be approached over a period of several days. A salt-poor diet greatly enhances the effects of methonium halides.

When the B.P. has been reduced in this way for a large part of the twenty-four hours subjective and objective benefits have resulted. In 8 cases of malignant hypertension with papilloedema the following results were obtained: in 4 the papilloedema disappeared; in 3 it greatly diminished and the physiological cups reappeared, and the sole remaining evidence of papilloedema was an appearance suggesting œdema of a part of the disc margin; the remaining patient, who commenced treatment recently, shows unmistakable improvement but papilloedema is still present. One of these patients had a recurrence of papilloedema while under treatment but is now showing improvement again. In all grade III hypertensives so far treated hæmorrhages, retinal œdema, and soft exudates have either decreased considerably or disappeared. In all cases headaches have disappeared or greatly diminished. There has been reduction of such symptoms as breathlessness on exertion and dizzy attacks; and such manifestations as gallop-rhythm and alternation of the pulse have disappeared or diminished considerably. In a few instances there has been slight diminution of heart-size and slight return of the electrocardiographic picture towards normal.

These changes are not due exclusively to the use of pentamethonium and hexamethonium. Rest in hospital may lead to considerable subjective and some objective improvement. The number of patients studied is small, but the notable clinical improvement, associated with effective lowering of the B.P., is of a degree seen in a smaller proportion of patients treated by other methods.

So far we have regarded recent cerebral or coronary thromboses as contra-indicating methonium treatment, but in a tentative and exploratory way we have treated a few hypertensives with angina of effort. Our experience is limited to nine months, and unforeseen difficulties may emerge, but the preliminary investigations suggest that it is now unwise to submit any patient to the risk, trauma, and uncertain benefit of sympathectomy until there has been a trial for several months of effective B.P. reduction using methonium halides and taking advantage of the effect of posture. In some cases the combined effect of a salt-poor diet (0·2 g. sodium) and pentamethonium or hexamethonium seems particularly favourable.—Prof. F. H. SMIRK, F.R.C.P. (Department of Medicine, Medical School, Dunedin, New Zealand.)

No Tools.—Your leading article of Sept. 23 may leave the impression that better staffing and equipment of chest clinics, with the chest physician doing an increasing amount of domiciliary treatment, is the most urgent need of the tuberculosis service. I submit that the most urgent problem, which has been the same for twenty years, is shortage of beds and of nurses. At this hospital five chest clinics, serving a population of 400,000, are accommodated in the outpatient department. The chest physicians attached to these clinics have a tuberculosis block of 56 beds, together with a small number of beds in the general wards for the investigation of non-tuberculous pulmonary disease. Facilities for minor thoracic surgical procedures have existed since 1943, and since 1947 a full major thoracic surgical service has been operated. Active domiciliary treatment has been carried on by the chest physicians since the clinics were opened; and experience has led to the conclusion that this method is no reliable substitute for hospital and sanatorium treatment. Streptomycin, P.A.S., and, for that matter, pneumoperitoneum and phrenic crush, cure few patients; but they give time for planning the appropriate attack on the disease. Any measure carried out in the home can be better carried out in an institutional bed; and more beds are obviously needed. But I think that, despite your optimism, the Minister's request to hospital boards will not improve matters much. We cannot be satisfied until a patient with recoverable pulmonary tuberculosis can be admitted into hospital within a week of diagnosis and does not return home until his disease is controlled and non-infectious.—H. F. HARWOOD, M.R.C.P. (chest physician, St. Helier Hospital, Carshalton, Surrey.)

First International Congress of Internal Medicine.—This congress, reported in your issue of Sept. 23, embodies the conception of internal medicine as a leading specialty in contemporary medical practice. It was right to hold this first congress in Paris, because that great school has always opposed itself to the splitting of internal medicine; and it was right to select London for the second congress, because British physicians showed the importance of the neurochemical integration of the organism and gave the death-blow to Virchow's cellular theory.

According to present-day ideas, internal medicine is "all or none." This does not mean that the narrow medical "specialties" are to be rejected but that their position has to be re-assessed. Plato's dictum comes again to the fore: "Good physicians apply their treatment to the whole body and attempt to treat the sick part or organ by treating the whole individual." This means that, say, a cardiologist or gastro-enterologist must assess the whole individual above all, although he may apply his special techniques to a local manifestation. Thus cardiology, gastro-enterology, endocrinology, and even neurology or dermatology can no longer be considered as specialties in their own right but as subspecialties of internal medicine, which the great American clinician, Da Costa, characterised as the greatest of all specialties. We should not speak of cardiologists or gastro-enterologists but of internist cardiologists and internist gastro-enterologists; and special diplomas—at all events in medical branches—should

be awarded only to those who already hold a postgraduate qualification in internal medicine of the M.R.C.P. type.

Will the congress succeed in fostering this new spirit? Those who took part in the Paris congress were mostly from the countries of Græco-Latin culture, including England, Latin Canada, and Latin America, and also Scandinavia. North America was scarcely represented, Germany not at all. Are we going to split into those who are animated by a comprehensive and humanistic intellect of the Græco-Latin culture and those who are obnubilated by the power of technique and machine? The London congress will have a tremendous significance from this point of view.—A. P. CAWADIAS, F.R.C.P. (London, W.1.)

Kernicterus.—In your issue of July 1, Dr. Gerrard speculates on the possibility that kernicterus may be caused by hypoglycæmia. I have had the same thought, and have found it easy to produce kernicterus in rats by insulin shock combined with intravenous injection of bilirubin. However, I cannot confirm the presence of hypoglycæmia in infants who develop kernicterus.—RICHARD L. DAY, M.D. (Department of Pediatrics, College of Physicians and Surgeons, New York.)

Treatment of Myasthenia Gravis.—Your leading article of Aug. 19 takes a distinctly unfavourable view of thymectomy for the treatment of this disease. You apparently suggest that results would best be judged by electromyography; but this method, though of undoubted value in the diagnosis of some disorders, can only be used to record the electrical activity of a small number of muscles at any one time, and it is very difficult to take records from the ocular, bulbar, and other muscles commonly involved in myasthenia. Over a long term the best guide is surely the patient's general activities as compared with before operation; this method was adopted by Keynes in following up his patients.

Some patients do improve notably in the first two to three weeks after operation; but in the majority who benefit from operation improvement is slow and steadily progressive over many months. This slow improvement does not seem to me to be in any way incompatible with the operation being the cause of it. Unfortunately at present we are unable to tell which patients are likely to benefit from thymectomy; but Keynes's follow-up, carried out in association with more than one physician, shows that of the patients without thymic tumours 32·5% were completely relieved of symptoms while another 33·3% had only minimal symptoms; and in my view the most significant fact is that there has been no relapse of myasthenic symptoms in any of these patients during follow-up periods of six months to eight years.

Thymectomy is certainly not the final answer to the treatment of patients without thymic tumours; but from my experience of following up some 65 of the patients on whom Mr. Keynes has operated I have no doubt of the benefit in about 60% of cases.—J. W. ALDREN TURNER, F.R.C.P. (St. Bartholomew's Hospital.)

In England Now

THE man who is thinking of going to New Zealand was discussing seasickness at our sherry party. His own doctor had recommended a well-known proprietary remedy, but a doctor friend had told him that this would make his heart go to pieces. He looked miserably in my direction. I suggested 'Dramamine,' but he said it was difficult to get. "Well," I asked reasonably, "why take any drugs at all?" And I told him how when I go for a long sea voyage I lie on my back until I am used to the motion—about two days, as a rule—and then all is well. He still looked dissatisfied. "My friend advises covering one eye," he mumbled, "and plugging both ears as well." The female guests around twittered that this would be very awkward. "Cover one eye and plug the opposite ear," I suggested. He brightened a little at that and said he would buy an eye-shade. Then someone thought of Nelson, who was notoriously subject to seasickness. I inquired whether this tendency had persisted after he lost his eye, but no-one knew, and we parted vowing to make it a subject for research. Are one-eyed people seasick?

* * *

I resent the printing dispute. THE LANCET is now too light to wake me by falling from the letterbox on to the mat.

News

In England and Wales notifications of poliomyelitis in the week ended Sept. 30 were: paralytic 222 (268), non-paralytic 109 (151); total 331 (419). Figures for the previous week are in parentheses. Uncorrected notifications for this year total 6351. The corresponding figures for 1947, 1948, and 1949, were 6665, 1449, and 3641.

On Tuesday Oct. 17, at 5 P.M., at St. Mary's Hospital Medical School, London, W.2, Prof. U. S. von Euler of the Physiological Institute, Stockholm, will give a lecture on Hormones of the Sympathetic Nervous System and the Adrenal Medulla.

Dr. F. M. R. Walshe, F.R.S., is to give the Schorstein lecture at the London Hospital, E.1, on Thursday, Oct. 19, at 4.15 P.M. He is to speak on Clinical Medicine.

At a meeting of the Society of Medical Officers of Health on Thursday, Oct. 19, at 5.30 P.M. at B.M.A. House, London, W.C.1. Dr. J. M. Gibson, M.O.H. for Huddersfield, will deliver his presidential address, entitled Give Us the Tools.

The Minister of Education has appointed a committee to inquire into medical, educational, and social problems relating to maladjusted children. The members include: Dr. J. E. A. Underwood (chairman), Dr. A. F. Alford, Dr. Mildred Creak, Dr. H. M. Cohen, Dr. Wilfrid Sheldon, Dr. W. Rees Thomas, and Dr. A. Torrie.

The first meeting of the West Midlands Physicians Association will be held in Birmingham on Oct. 21. Further particulars may be had from Dr. A. G. W. Whitfield, Queen Elizabeth Hospital, Birmingham, 15.

Dr. Charles Hill is to preside over the fourth general assembly of the World Medical Association, opening in New York on Oct. 16. B.U.P. reports that the medical organisations of 39 countries will be represented.

Dr H. Balme has been appointed by W.H.O. and the U.N. department of social affairs as their consultant adviser to UNICEF on the rehabilitation of crippled children in European countries.

A conference on the Physical Care of Books is to be held at the headquarters of the Library Association, Chaucer House, Malet Place, London, W.C.1, on Wednesday, Oct. 18, at 5.30 P.M., when Dr. R. E. O. Williams is to speak on the Spread of Infection by Books.

At Oxford University freshmen are being invited to submit to mass radiographic examination.

The honorary fellowship of the Royal College of Obstetricians and Gynæcologists has been conferred on Dr. G. W. Kosmak, editor of the *American Journal of Obstetrics and Gynecology*. Mr. Geoffrey Keynes and Dr. R. J. Minnitt have been elected to the fellowship under the rule permitting the election of practitioners who are not obstetricians or gynæcologists but who have made contributions to the specialty.

The unit for 14 premature babies mentioned in our issue of Aug. 19 (p. 312) was opened at University College Hospital on Oct. 1. Babies under 5 lb. who need special care can be admitted to the unit by arrangement with the children's house-physician (Euston 5050).

The Treasury has sanctioned the purchase of 47 acres at Northwick Park, near Harrow, for the site of the new Charing Cross Hospital. The new hospital is to have 800 beds, an outpatient department, and medical school. It is not known when building will start.

In a letter to Mr. David Rees Evans, whose treatment of cancer has been publicised by *Picture Post* (see *Lancet*, Sept. 16, p. 375), the Minister of Health says that he has asked Sir Robert Robinson, P.R.S., Sir Alexander Fleming, F.R.S., Sir Ernest Rock Carling, F.R.C.S., and Prof. H. P. Himsworth, F.R.C.P., "to act as an independent committee to consider your claims and to advise whether they warrant further investigation and, if so, the way in which any investigation should proceed." In making this offer to Mr. Evans he adds: "I must ask that you on your part will agree to abide by any decision which they may reach and, furthermore, that you will be prepared to submit to the committee, should they require it, full details of your materials and methods and will no longer insist that these can be disclosed only during the actual treatment of patients." Mr. Evans has agreed to submit to the committee "the fullest records I can of past cases and whatever they may ask concerning my materials and methods." He believes, however, that his work "can never be fully and finally tested unless actual treatment of patients forms part of the investigation."

CORRIGENDUM: *Hazards of the Aged Hip.*—In our leading article of Sept. 30, the American estimate of the expectation of life for women of 60 should have been given as 5 *years* (not 5 *times*) greater than that of a man of the same age.

Births, Marriages, and Deaths

BIRTHS

FOX.—On Sept. 16, in London, the wife of Dr. P. B. Fox—a daughter.

GWYNNE WILLIAMS.—On Oct. 5, in Denbigh, the wife of Dr. T. Gwynne Williams—a son.

ILLINGWORTH.—On Oct. 1, to Dr. Cynthia Illingworth, M.R.C.P. (née Redhead), wife of Prof. R. S. Illingworth, F.R.C.P.—a son.

MACPHAIL.—On Sept. 11, in London, to Dr. Margarett Macphail (née Hutchinson), wife of Dr. D. S. Macphail—a daughter.

MATTHEWS.—On Sept. 12, at Guildford, the wife of Dr. H. W. Matthews—a daughter.

SCHRYVER.—On Sept. 26, at Epsom, to Dr. Nancy Richardson, wife of Mr. Peter Schryver—a son.

MARRIAGES

WALL—YOUNG.—On Sept. 30, at Petts Wood, Kent, Arthur Ernest Wall, F.R.C.S., to Eva Margaret Young.

ACADEMIC AND EDUCATIONAL

Empire Rheumatism Council: Post-graduate weekend course at Apothecaries' Hall, Nov. 17–19. Fee 2 gns., with application to Gen. Secretary, Tavistock House (N), Tavistock-square, W.C.1.

Institute of Orthopædics: Course in diagnostic and prognostic methods in orthopædics, Nov. 6–11. Fee 7 gns. Apply Dean, 234, Great Portland-street, W.1.

Bristol University: Professor of Obstetrics; Lecturers in Medicine and Surgery (£1500–£2000). Apply to Registrar (closing date Oct. 28.)

London Hospital Medical College: Jr. Lecturer in Morbid Anatomy (£900–£100–£1100). Apply to Secretary (closing date Nov. 6.)

LIST OF HOSPITAL VACANCIES

Albert Dock Orth. & Frac., E.16.—Rec. Room O.
Belgrave for Children, S.W.9.—Res. H.O.
Chelsea for Women, S.W.3.—H.S. (Reg.).
Forest Gate, E.7.—H.O. (2nd or 3rd post), obst.
Hampstead Gen., N.W.3.—H.P.; H.S.; Cas. O.
Lewisham, S.E.13.—H.O. (obst. & gyn.).
London, E.1.—Sr. Reg. (thor. surg.); Reg. (gen. med.).
London Jewish, E.1.—H.P.
London Chest, E.2.—2 R.H.P.s; R.S.O. (Jr. Reg. or Reg.).
Mothers' (Salvation Army), E.5.—Obst. R.M.O. (H.O., 3rd post), Female.
Manor House, N.W.11.—R.S.O. (Jr. Reg.).
Memorial, S.E.18.—H.S. (gen. surg., gyn. & obst.).
Mile End, E.1.—Res. Jr. Gyn. & Obst. Reg.
North Middlesex, N.18.—Sr. H.S. (gen. & thor. surg.); H.P.; H. Anæs.
Queen Elizabeth, E.2.—H.O.s.
Queen Mary's, E.15.—H.P.; H.S.
Queen Charlotte's Maty., W.6.—Jr. Obst. O. (Reg.); Jr. Dist. Obst. O. (Jr. Reg.).
Royal Free, W.C.1.—1st Asst. (Sr. Reg.), diabetic; Sr. Surg. Reg.; H.S. (orth.); Cas. O. (Female); Anæs.; Dep. M.O. & H.P.; Sr. Med. Reg.
Royal Free, W.C.1.—Reg. (Rad. Dept.); Res. Asst. Path. (H.O.).
Royal Northern, N.7.—Rad.
Royal Northern, N.7.—H.P. (2nd or 3rd post).
Royal Masonic, W.6.—Visiting Urological Surg.
S.E. Met. R.H.B.—Cons. E.N.T. Surg. (Camberwell).
S.E. Met. R.H.B.—Cons. Anæs. (Thor. Surg. Unit, Brook Hosp., S.E.18).
S.E. Met. R.H.B.—2 Cons. Radiols. (Seamen's & Bromley).
St. Alfege's, S.E.10.—H.P.
St. Alfege's, S.E.10.—H.O. Obst.
St. Mary's, W.2.—Res. Cas. Surg. (Jr. Reg. or H.O.).
St. Ann's Gen.—H.P. (inf. dis.).
St. George's, S.W.1.—1st Asst. Obst. & Gyn. (Reg. or Sr. Reg.).
St. Paul's, W.C.2.—Sr. Reg.
St. Stephen's, S.W.10.—H.P. (2nd or 3rd post); Sr. H.P.
South London for Women & Children, S.W.4.—Gyn. H.S. (Female).
Tavistock Clinic, W.1.—Psych.
Whittington, N.19.—H.P.; H.S.; H.S. (g-u); H.S. (obst. & gyn.), 3rd post.

Provincial

Ashton, Hyde & Glossop H.M.C.—H.S. (orth.); Reg. (chest & T.B.).
Ashton-u-Lyne. Dist. Infy.—2 H.S.s.
Ashford, Middx.—Reg. (gyn.), Staines Hosp.
Altrincham Gen.—Asst. R.S.O. (2nd or 3rd post).
Aylesbury. Royal Bucks.—H.S. (E.N.T. & ophth.).
Banstead, Surrey. Cuddington.—H.O.
Bath. Royal United.—H.S. (gyn. & obst..)
Bath. Royal United.—House Anæs.
Bath. St. Martin's.—H.P.
Barnsley. Beckett.—Cas. O.; H.O. (Special).
Birmingham. Queen Elizabeth.—R.M.O. (Jr. Reg. or Reg.).
Birmingham United.—Reg. or Sr. Reg. (psych.).
Birmingham R.H.B.—Cons. Venereol. (Wolverhampton & Walsall).
Birmingham. Solihull.—H.O. (2nd or 3rd post).
Birmingham. Rubery Hill.—H.P. (3rd post).
Birmingham. Hollymoor.—H.P. (3rd post).
Birmingham 18. Dudley Road.—H.S. (E.N.T.).
Barrow-in-Furness. North Lonsdale.—R.H.S.
Beverley, Yorks. Westwood.—H.S.
Bebington, Wirral. Clatterbridge Gen.—H.S. (orth.).
Billericay. St. Andrew's.—H.S. (gen. surg. & orth.).
Billericay. St. Andrew's.—Obst. Reg.
Bradford. Royal Infy.—Reg. (orth.).
Bradford. Royal Infy.—H.S.
Bradford. St. Luke's.—Jr. Reg. Anæs.
Bradford. St. Luke's.—H.O. (anæs.).
Brighton, 7. Royal Sussex County.—H.P.
Brighton & Lewes H.M.C.—2nd Res. H.S. (E.N.T.).
Bromley Group H.M.C.—Sr. Reg. (pæd.).
Beverley, Yorks. Broadgate.—Jr. Med. Reg.
Blackpool & Fylde H.M.C.—Jr. Reg. (anæs.).
Bristol. Charterhouse-on-Mendip San.—Jr. H.O.
Bristol. Ham Green Hosp. & San.—Jr. H.O.
Bristol. Cossham/Frenchay H.M.C.—H.S. (neurosurg.).
Bury Gen.—Cas. O.; H.S.
Bishop Auckland Gen.—H.P.
Bournemouth. Royal Victoria.—H.S. (ophth. & E.N.T.).
Broxburn. Bangour.—H.O.s (psych.).
Burley-in-Wharfedale. Scalebor Park Mental.—2 Jr. Regs.
Bowdon, Ches. Manchester Throat & Chest.—Jr. E.N.T. Reg.; H.O.
Cambridge. Addenbrooke's.—H.P. (2nd or 3rd post.)
Cambridge. Addenbrooke's.—H.S. (otolaryn.).
Coventry & Warwick.—H.P.
Cottingham. Castle Hill & Sanatorium.—H.O.s.
Chesterfield & North Derbyshire Royal.—H.O. (cas.).
Carmarthen. West Wales Gen.—H.S.; R.S.O.
Chelmsford & Essex & St. John's.—H.S. (Spec. Depts.).
Chelmsford & Essex.—H.P.
Chelmsford. St. John's.—H.P.
Cheltenham. Sunnyside Maty.—R. Obst. O.
Cheddleton, Staffs. St. Edwards.—Psych. Jr. Reg. or H.P.
Carshalton. St. Helier.—Jr. Chest Reg.
Carshalton. St. Helier.—Sr. Reg. (obst. & gyn.).
Canterbury. Kent & Canterbury.—H.S. (E.N.T. & E.).
Cardiff. Llandough.—H.P. (Pneumoconiosis Research).
Chester. City Hosp. & Royal Infy.—Med. Reg. (gen. med. & cardiac).
Chester. Royal Infy.—M.O. (Jr. H.M.O.), orth. & cas.
Coleshill Hall, Warwick. (Mental Defectives.)—Locum Jr. H.M.O.
Coleshill Hall, Warwick. (Mental Defectives.)—Sr. Reg.
Davyhulme. Park.—Med. Reg.
Darlington Mem.—E.N.T. Reg.; Cas. O.
Dewsbury Gen.—H.S.
Doncaster Royal Infy.—H.S. (E.N.T. & ophth.); H.S.
Doncaster H.M.C.—Jr. Reg. (chest clin.).
Dudley. Guest.—H.S.; C.O.; Res. Anæs.
Dorchester. Dorset County.—Surg. Reg.
Dumfries Royal Infy.—Res. Anæs.
Edgware Gen.—R.H.P.
East Anglia R.H.B., Norwich.—Cons. E.N.T. Surg.
East Anglia R.H.B., Peterborough.—Cons. Path.
East Anglia R.H.B., St. Audry's Mental.—Sr. Reg. (psych.).
East Anglia R.H.B., Papworth.—Sr. Surg. Reg. (thor. surg.).
East Anglia R.H.B., East Suffolk & Ipswich.—Anæs. Reg.
East Anglia R.H.B., Stamford & Rutland.—Surg. Reg.
Enfield. Chase Farm.—H.S. (1st post), gen. surg. & orth.
Farnborough, Kent.—H.P. (pæd.); H.S.
Farnham, Surrey.—Asst. Obst. O. (H.O.).
Godalming. King George V San.—H.O. (med.).
Griffithstown, Mon. County.—Jr. H.M.O. (obst. & gyn.); Jr. H.M.O. (orth.).
Grantham & Kesteven Gen.—H.O. (surg.).
Guildford. Royal Surrey County.—H.P.
Great Barrow. Barrowmore.—R.M.O. (Male), Jr. H.M.O.
Grimsby Gen.—Res. Anæs.
Hereford Gen.—H.S. (2nd post), cas., E.N.T., & frac.
Hereford. Burghill & Holme Lacy.—Res. Jr. Reg. or Locum.
Haverfordwest. Pembroke County War Mem.—R.S.O.; H.S.
Huddersfield Royal Infy.—Jr. E.N.T. Reg.; Rad. Reg.
Hailsham, Sussex. Hellingly Mental.—H.O.
Hailsham H.M.C.—Reg. (psych.).
Halifax Gen.—Jr. Obst. Reg.
Hinckley & Dist.—Res. H.S. & C.O.
Hounslow, Middx.—H.S. (cas. anæs., &c.); H.P.
Harrogate. Royal Bath & Rawson Conval. Wing.—R.M.O. (2nd or 3rd post.)
Hertford County.—H.P. (2nd or 3rd post).
High Wycombe & Dist. War Mem.—Res. H.O. (surg.), 2nd post.
Hull. Royal Infy.—H.S. (E.N.T.); Orth. H.S.
Hull. Royal Infy.—H.P.
Hull. Royal Infy.—H.S.
Hull. Victoria for Sick Children.—H.P.
Huntingdon County.—R.H.O. (med. & anæs.).
Irvine. Ayrshire Central.—Jr. H.M.O. (Inf. & San. Units.)
Ilford. King George.—H.P.

Ilford. King George.—H.S.
Isle of Man. Ballamona.—2nd Asst. Phys. (Male), Jr. Reg.
Ipswich. Borough Gen.—H.S. (gen. surg.).
Ipswich. E. Suffolk & Ipswich.—H.S. (gen. surg.); H.S. (orth. & frac.); H.S. (E.N.T., ophth.); C.O. & Asst. H.P.
Ipswich. E. Suffolk & Ipswich.—C.O. & Asst. H.P.
Isleworth. W. Middlesex.—Locum Tenens Anæs. (Reg. or Sr. Reg.).
Larbert, Stirling. Royal Scottish Nat. Inst.—Jr. H.M.O.
Leamington Spa. Warneford Gen.—R.H.S. (E.N.T. & ophth.), 2nd or 3rd post.
Lincoln. Bracebridge Heath.—Jr. H.M.O.
Lincoln. Burton Road.—R.M.O. (Jr. H.M.O.).
Leeds. Public Dispensary.—Sr. Cas. O. (Jr. Reg.).
Leeds. United Leeds & Leeds R.H.B.—Sr. Reg. (anæs.).
Leeds United.—Reg. (psych.).
Leeds. United & University.—Sr. Reg. and Tutor Orth. Surg.
Leeds. Gen. Infy.—Reg. or Sr. Reg. (orth.).
Leeds. Gen. Infy.—Reg. or Sr. Reg. (anæs.); Reg. & Sr. Reg. (National Radioth. Centre); Reg. or Sr. Reg. (surg.); Reg. (Male), E.N.T.
Leeds. St. Mary's.—Locum Res. Obst. O. (Reg.).
Leeds R.H.B.—Reg. (gen. surg.), Halifax; Reg. (obst. & gyn.), Dewsbury; Reg. (radiol.), Huddersfield; Med. Reg. (Hull A).
Leeds R.H.B.—Asst. Phys. I.D. (Sr. H.M.O.).
Leeds R.H.B.—Cons. Anæs.s (Huddersfield) (Bradford) (Hull).
Liverpool. E.N.T. Infy.—Sr. & Jr. Otorhinolaryn. Regs.
Liverpool. Royal Southern.—Cas. O.s (H.O.s).
Liverpool. Royal Infy.—Surg. Reg. (Sr. Reg. or Reg.).
Liverpool. Royal Children's.—Sr. Cas. O. (Jr. H.M.O.), City Branch; Res. H.S. (H.O.), Heswall Branch; Radiol. Reg. (Sr. Reg. or Reg.); Orth. Reg. (Sr. Reg. or Reg.).
Liverpool R.H.B.—Jr. H.M.O. (blood trans.).
Liverpool R.H.B.—Non-res. Psych's (Sr. H.M.O.s).
Liverpool. Walton.—Psych. H.P.
Manchester, 19. Duchess of York Babies.—H.P.
Manchester, 13. St. Mary's.—H.P. (neonatal).
Manchester. Northern.—R.H.O. (surg.).
Mansfield & Dist. Gen.—Sr. H.S. (acc. & orth.).
Mansfield. Harlow Wood Orth.—R.H.S. (2nd or 3rd post).
Newcastle upon Tyne R.H.B.—Reg. (phys. med.), Durham & N.W. Durham.
N.W. Met. R.H.B.—Asst. Chest P. (Sr. Reg.), Luton Chest Clinic.
Nuneaton. Manor.—Gyn. & Obst. H.S.
Nuneaton. Manor.—H.P. (gen. med.).
Nuneaton. Manor.—H.S. (gen. surg. & cas.).
Nottingham Gen.—Aural H.S.; Jr. Aural Reg.
Norwich. Norfolk & Norwich.—Sr. Cas. O. (Jr. Reg.).
Newcastle upon Tyne. Royal Victoria Infy.—Surg. Reg. (ophth.).
Newcastle Gen.—H.P.
Newport, I.W. St. Mary's.—H.S.; H.P.
Newport, Mon. Royal Gwent.—H.O. (orth.); H.O. (derm. & V.D.); H.O. (E.N.T. & ophth.).
N.E. Met. R.H.B.—Sr. Reg.s (path., anæs., geriatic., pæd.).
N.E. Met. R.H.B.—Sr. Reg. (Runwell Mental, Wickford).
Northwood, Middx. Mount Vernon.—H.S. (gen. surg., urol. & ophth.).
Pontefract Gen. Infy. & Hydes.—R.S.O. (Jr. Reg.); H.P.; H.S.
Plymouth. S. Devon & E. Cornwall.—H.S. (obst. & gyn.).
Rotherham. Doncaster Gate.—Res. H.S. (2nd or 3rd post).
Rochdale. Birch Hill.—H.P.
Rochdale Infy.—Cas. H.S.
Redruth. Camborne-Redruth Miners' & Gen.—H.S.
Romford. Oldchurch.—Jr. Reg. (path.).
Romford. Oldchurch.—R.H.O. (neuro-surg.).
Ryde. Royal I.W. County.—H.S.
Reading & Dist. H.M.C.—Reg. (E.N.T.).
Rochford Gen.—Res. H.P. (H.O.), Chest Unit & Clinic.
Rochford Gen.—H.S.
S.W. Met. R.H.B.—Reg. or Jr. Reg. (Belmont Hosp., Sutton).
Skipton. The Hospital.—H.O.
Swansea.—Res. Cas. O.; Res. Anæs.
Scarborough.—R.H.S. (surg.).
Southampton. Borough Gen.—H.S.
Stamford & Rutland.—Cas. O. & H.P.; R.H.S.
Stoke-on-Trent. N. Staffs Royal Infy.—H.O. (anæs.); H.O. (orth.).
Stoke-on-Trent. Bucknall Isolation.—H.O. (med.).
Stoke-on-Trent. Longton.—H.O. (surg.).
Shrewsbury. Royal Salop Infy.—Orth. H.S./Cas. O.
Scunthorpe & Dist. War Mem.—R.H.O. (E.N.T. & rad.).
Scotland. North-Eastern R.H.B.—Diag. Rad. (Cons.).
Salisbury Gen.—Res. Jr. Reg. (E.N.T.).
Salisbury Gen.—H.S.
Sheffield. Nether Edge.—H.O. (maty.).
Sheffield. Royal Hosp. Unit.—Reg. or Jr. Reg. (neurology).
Sheffield. City Gen.—2 Cas. O.s; H.S. (orth.).
Sheffield. Jessop for Women.—Jr. Reg. (path.).
Sheffield. Royal Infy. Unit.—Anæs. Reg.
Sheffield. Royal Infy. Unit.—Sr. Reg. or Reg. (derm.).
Sheffield. Wharncliffe.—H.P.
Sheffield No. 1. H.M.C.—Jr. Med. Reg.
Southport Gen. Infy.—Jr. Reg. (anæs.).
Swindon & Dist. H.M.C.—Res. Cas. O. (Cent. Cas. Dept.).
Scotland. Rosslynlee Mental.—H.O.
S.E. Met. R.H.B.—Cons. Surg. (Orpington & Sevenoaks).
S.E. Met. R.H.B.—2 Cons. Anæs. (Bromley & S.E. Kent).
S.E. Met. R.H.B.—Derm. (Brighton & Lewes).
S.E. Met. R.H.B.—3 Cons. Paths. (Mid-Kent, Isle of Thanet & Mid-Sussex).
Southampton. Royal S. Hants & So'ton.—Sr. Reg. (path.); Sr. Reg. (radiodiag.).
Stockport Infy.—H.O. (gen. surg. & ophth.); H.O. (gen. surg. & gyn.); H.O. (anæs.).
Stockport. Stepping Hill.—H.O. (med.).
Stourbridge. Corbett.—H.P.; C.O.
St. Albans City.—Cas. O. (Male).
Taunton & Somerset.—H.P. (pæd.).
Taunton & Somerset.—Jr. H.M.O. (gyn. & obst.); R.H.S. (gen. surg.).
Taplow. Canadian Red Cross Mem.—H.P. (juv. rheum.).
Tilbury & Riverside Gen.—H.P. (Tilbury).; H.S. (gen. surg. & orth.), Orsett.
Tilbury & Riverside Gen.—Obst. H.S. (2nd or 3rd post), Orsett.
Truro. Royal Cornwall Infy.—H.S. (gen. surg. & gyn.).
Truro. Royal Cornwall Infy.—H.S.
Uxbridge Group H.M.C.—T.B. Reg. (Chest Clinic).
Wakefield. Clayton.—H.P.
Wakefield Gen.—R.H.O. (med. & pæd.).
Wakefield. Pinderfields Gen.—H.P. (med.); H.P. (neurolog.).
Wakefield. Manygates Maty.—Obst. H.S.
Wallingford. Fair Mile.—Jr. Reg.
Welsh R.H.B.—E.N.T. Reg. (Newport & East Mon.).
West Bromwich & Dist. Gen.—Res. Anæs. & H.S.
Winchester. Royal Hants County.—H.S. (gyn.); H.P. (maty.); H.S. (orth.).
Worcester. Royal Infy.—H.S. (obst. & gyn.); H.S. (gen. surg.); H.S. (E.N.T.).
Worksop, Notts. Victoria.—H.S.; C.O.
Wolverhampton. Royal.—Sr. Cas. O. (Reg.); Jr. Cas. O.; H.S. (frac. & orth.).
Wolverhampton & Counties Eye Infy.—H.S.
Yorkshire. Keighley & Dist. Victoria.—H.S.
York County.—2 R.H.S.s.
York City.—R.H.S.
York. Military (Civilian Wing).—R.M.O. (2nd or 3rd post).

PUBLIC HEALTH

Bristol. City & County.—Chief Asst. M.O. (maty. & c.w.).
Kent Educational Committee.—Asst. County M.O. (Male), S.W. Kent.
Leeds City.—Asst. M.O.H. (mental health).
Leicester City Education Committee.—Sr. Asst. Sch. M.O. and Asst. M.O.H.
Leslie, Fife.—Factory Doctor.
Lancashire County Council.—Asst. Div. M.O.s.
Ministry/Health.—M.O.s (Male), Sudan.
Ministry/Pensions. Aylesbury, Stoke Mandeville.—M.O.; Anæs. O.
Ministry/Pensions. Liverpool, Childwall.—M.O.
Ministry/Pensions. Worcester, Ronkswood.—M.O.; Jr. M.O.; Anæs. O.
Treasury Medical Service.—Local M.O.s. Bridgend; Blaengarw, and Pontycymmer (Bridgend); London-Eltham, S.E.9.; Gateshead (Newcastle); Waterlooville, Denmead, Cowplain, and Purbrook (Portsmouth); Scotland-Larbert (Falkirk); Rothesay.

GENERAL PRACTICE

Birmingham. Sparkhill/Acocks Green.—Urban. List 1800.
Grimsby, Lincs.—Urban. List 2500.
Gateshead.—Urban. List 2110.
Newcastle-upon-Tyne.—Urban. List 2200.
Stalbridge, Dorset.—Semi-rural. Dorset, & Somerset lists 2200.
Smethwick, Staffs.—Urban. List 3000.
Wolverhampton.—Urban. List 3000.

HOSPITAL NON-MEDICAL VACANCY

Wolverhampton H.M.C.—Sr. Asst. Biochem.

PUBLISHED by the PROPRIETORS, THE LANCET LIMITED, 7, Adam Street, Adelphi, in the County of London.
Printed by HAZELL, WATSON & VINEY, LTD., London and Aylesbury—Saturday, October 14, 1950.
PRINTED IN GREAT BRITAIN—Entered as Second Class at the New York, U.S.A., Office.